

NOAA's National Weather Service

Marine Forecasts



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National Weather Service Marine Forecasts

Voluntary Observations from Mariners

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Voluntary Observing Ship (VOS) Program

The United States VOS Program is organized for the purpose of obtaining weather and oceanographic observations from moving ships. An international program under World Meteorological Organization (WMO) auspices, the VOS program has forty nine countries as participants. The United States program is the largest in the world, with over 900 vessels. Observations are coded in a special format known as the ships synoptic code, or "BBXX" format. They are then distributed on national and international circuits for use by meteorologists in weather forecasting, by oceanographers, ship routing services, fishermen, and many others. The observations are then forwarded for use by the National Climatic Data Center (NCDC) in Asheville, North Carolina.

Observations from ships form the basis of marine weather forecasts in coastal, offshore and high seas areas. The program operates at no cost to the vessel, with communications charges, observing equipment and reporting supplies furnished by the National Weather Service. Vessels participating in the VOS program are typically active commercial vessels with licensed crew. For further information on the VOS Program, visit the VOS Webpage and read the Mariner's Weather Log Magazine.



SKYWARN Program

Many mariners participate in the SKYWARN Program. SKYWARN is a nationwide network of volunteer weather spotters who report to and are trained by the National Weather Service. These spotters report many forms of significant or severe weather such as Severe Thunderstorms, Tornadoes, Hail, Heavy Snow, or Flooding. Contact your local National Weather Service Forecast Office to learn about SKYWARN activities in your area.

MAREP Program

MAREP is a program whereby mariners report current coastal weather conditions in the form of plain language reports to local Weather Forecast Offices producing Coastal Weather Forecasts. Unlike the VOS and SKYWARN programs, pre-registration and training is not usually a prerequisite for participation. Available reporting methods and procedures vary between Forecast Offices. Cellular telephone, HF Marine radio, VHF Marine Radio, Ham Radio, Webforms and e-mail are a few of the communication tools used. Contact your local National Weather Service Forecast Office to learn about MAREP program activities in your area.

Mariner Reports (MAREPs)

User Guide Cover Page Marine Report User Guide Guide to Mariner Reports Brochure

National Weather Service Phone Numbers to Report Marine Observations and Severe Marine Weather (MAREPs)		
Ocean Prediction Center	None	
Tropical Prediction Center	None	
National Hurricane Center	None	

808-973-5284
None
None
800-330-1147
800-226-0218
None
None
757-899-2415
None
910-762-8724
888-383-2024
800-499-1594
None
305-229-4528
305-225-4328 305-295-1316 Ext 3
787-253-4589 800-282-1228
850-942-8833
None
504-522-7730
337-477-5285
None
None
None
866-896-BOAT
None
248-625-3309 Ext 468
989-732-6242 Ext 1
Preregistration Required
815-834-1435 (8AM-8PM)
574-834-1104 Ext 286
Preregistration Required
920-494-7478
906-475-5213
218-729-6697 Ext 6
None
None
800-483-4573
800-240-3027
800-437-2689
800-524-6120
800-240-3022
907-886-3241
907-852-6484
907-543-2236
907-532-2448
877-807-8943
907-246-3303
907-487-2102
907-487-2102

Nome, AK	907-443-2321
St. Paul Is., AK	907-546-2215
Valdez, AK	907-835-4505
Yakutat, AK	907-784-3322
Honolulu, HI	808-973-5277
Marianas (Guam)	671-472-0952
Micronesia	671-472-0952
American Samoa	684-699-9130

MAROB Program

All Information with Respect to the MAROB Program Are Preliminary and Subject to Revision

The MAROB Program is an experimental voluntary marine observation program of the National Weather Service in the early stages of development. It seeks the participation of all mariners, both commercial and recreational, which are not part of the more in-depth VOS program. It is the goal of the program to collect as many marine observations as practicable, to improve the accuracy of coastal, offshore and high seas forecasts, by taking advantage of technological advancements in digital marine communications.

MAROB observations will be in coded form which can be better ingested, distributed and displayed by forecasters than observations in plain language. The MAROB report format will be identical to VOS coded reports, with the exception that "MAROB" will replace "BBXX". The MAROB program will differ from the VOS Program in at least several other aspects: Although MAROBs will be used by forecasters in forecast decision process, these data will likely not be used directly by computer models; Any communications charges and the cost of any observing equipment will not be reimbursed by the Weather Service; The observation elements collected will typically be a subset of those collected in the full VOS report.

The National Weather Service is in the process of developing cooperative arrangements with organizations such as the United States Power Squadrons, the U.S. Coast Guard Auxillary, the WinLink 2000 Global Radio Network, the Maritime Mobile Service Network, CruiseEmail.com, Ocens, Sailmail, SkyMate, MarineNet Wireless, and the YOTREP Reporting System, to both train observers and forward observations to NWS. Technologies utilized may include cellular telephone, HF Marine radio, MF Marine radio, VHF Marine Radio, Ham Radio, Webforms and e-mail.

In several cases, MAROB reporting schemes will work in conjunction with vessel position reporting systems such as WinLink's Position Reporter, the Maritime Mobile Service Network's ShipTrak, and the YOTREPs Reporter, to enhance the safety of mariners.

CLICK HERE for more details on the MAROB program.

MARS Program

The MARS Program is a voluntary marine observation program of the National Weather Service whereby U.S. Coast Guard Group Stations report marine weather conditions from several shore locations within their operating area. The reports are in an abbreviated plain language format with fixed fields. For further information on the MARS program contact robert.luke@noaa.gov

APRSWXNET/Citizen Weather Observer Program (CWOP)

Originally, APRSWXNET was developed as a way for amateur radio operators to transmit weather data to the NOAA's Forecast Systems Laboratory (FSL) in Boulder, Colorado for research. The success of this effort and the amount of data routinely collected have led to use by other research labs and by operational parts of NOAA including the National Weather Service. The system has also been expanded to allow collection of observations via the Internet, thereby expanding the program to persons not holding an amateur radio license. The program offers the potential of greatly improving the accuracy of marine forecasts and timeliness of warnings. An example would be a network of volunteer automated weather stations installed at marinas and yacht clubs along the coast. For further information, visit the CWOP Webpage

Nearby CWOP weather data may be retrieved via the Internet as in the following examples where 20902 is the zip code, or the position is 39.1N, 77.1W, or via NOAA's Forecast Systems Laboratory (FSL) Display of Surface Data.

http://www.findu.com/cgi-bin/wxnear.cgi?lat=39.1&lon=-77.1

Cooperative Observer Program (COOP)

The National Weather Service Cooperative Observer Program (COOP) is truly the Nation's weather and climate observing network of, by and for the people. More than 11,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are truly representative of where people live, work and play. Although these observations are typically taken over land, they impact the accuracy of Global Forecast Models used in marine forecasting. For further information, visit the COOP Webpage

Voluntary Mesonets Including the Homeland Security WeatherNet Network

NOAA's Forecast Systems Laboratory (FSL) offers a Display of Surface Data from several government, commercial and voluntarily operated mesonets as well as observations of those of the Voluntary Observing Ship (VOS) Program and data buoys. Among these mesonets, are observing systems at several U.S. Coast Guard stations as part of the Homeland Security WeatherNet Network which is a public-private partnership between AWS Convergence Technologies and NWS. A variety of marine observations may also be viewed on the National Ocean Service's nowCOAST Web Portal(BETA).

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